

Experiment No. :2						
1.	Title of experiment	:	OKRA (YVMV Hybrid Resistant AVT-I)			
2.	Location	:	Regional Horticultural Research Station, A.C.H., N.A.U., Navsari			
3.	Agro-ecological situation	:	South Gujarat Heavy Rainfall Zone, AES-III			
4.	Name of Investigator	:	PI: Dr. J.M. Vashi Co-PI: Dr. A.I .Patel Asso. PI: Dr.H.R.Rathod & Dr D.R.Bhanderi			
5.	Year and Season	:	<i>Kharif-2024</i>			
6.	Experimental detail	:				
	(a) Design	:	RBD			
	(b) No. of Entries	:	8			
			1.	2023/ OKYVHYBRES-1	6.	2023/ OKYVHYBRES-7
			2.	2023/ OKYVHYBRES-2	7.	2023/ OKYVHYBRES-8
			3.	2023/ OKYVHYBRES-4	8.	2023/ OKYVHYBRES-9
			4.	2023/ OKYVHYBRES-5		
			5.	2023/ OKYVHYBRES-6		
	(c) Replication	:	3			
	(d) Plot Size	:	3.0 m X 2.7 m			
	(e) Spacing	:	60 cm X 30 cm			
	(f) Fertilizer NPK kg/ha	:	150-100-100			
	(g) Date of sowing	:	30/07/2024			
	(h) Date of first picking	:	20/09/2024			
	(i) Date of last picking	:	28/10/2024			
7.	Methodology	:	Observations were recorded as per the guideline provided by PC cell, IIVR, Varanasi.			
8.	Research results	:	Table -1 to Table – 16			

Table 1.Plant population at 75 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Plant population (%)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	100	100	100	100
2	2023/OKYVHYBRES-2	100	100	100	100
3	2023/OKYVHYBRES-4	100	100	100	100
4	2023/OKYVHYBRES-5	100	100	100	100
5	2023/OKYVHYBRES-6	100	100	100	100
6	2023/OKYVHYBRES-7	100	100	100	100
7	2023/OKYVHYBRES-8	100	100	100	100
8	2023/OKYVHYBRES-9	100	100	100	100

Table 2.YVMV Count at 30 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

YVMV Count at 30 days after sowing										Reaction
Sr. No.	Entries/Genotype	Number				PDI Range				
		RI	RII	RIII	Mean	RI	RII	RII	Mean	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	0	0	0	0.00	0	0	0	0.00	Immune
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 3.YVMV Count at 45 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

YVMV Count at 45 days after sowing										Reaction
Sr. No.	Entries/Genotype	Number				PDI Range				
		RI	RII	RIII	Mean	RI	RII	RII	Mean	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	0	0	0	0.00	0	0	0	0.00	Immune
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 4.YVMV Count at 60 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

YVMV Count at 60 days after sowing										Reaction
S r. N o.	Entries/Genotype	Number				PDI Range				
		RI	RII	RIII	Mean	RI	RII	RII I	Mean	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	4	3	4	3.66	1.77	1.33	1.77	1.62	Resistance
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 5.YVMV Count at 75 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

YVMV Count at 75 days after sowing										Reaction
S r. N o.	Entries/Genotype	Number				PDI Range				
		RI	RII	RIII	Mean	RI	RII	RII I	Mean	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	4	3	4	3.66	1.77	1.33	1.77	1.62	Resistance
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 6.YVMV Count at 90 days after sowing at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

YVMV Count at 90 days after sowing										Reaction
S r. N o.	Entries/Genotype	Number				PDI Range				
		RI	RII	RIII	Mean	RI	RII	RII I	Mean	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	4	3	4	3.66	1.77	1.33	1.77	1.62	Resistance
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 7. YVMV Count at end of trial at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

S r. N o.	Entries/Genotype	YVMV Count at end of trial								Reactio n
		Number				PDI Range				
		R I	RII	RIII	Mean	RI	RII	RII I	Mea n	
1	2023/OKYVHYBRES-1	0	0	0	0.00	0	0	0	0.00	Immune
2	2023/OKYVHYBRES-2	0	0	0	0.00	0	0	0	0.00	Immune
3	2023/OKYVHYBRES-4	0	0	0	0.00	0	0	0	0.00	Immune
4	2023/OKYVHYBRES-5	0	0	0	0.00	0	0	0	0.00	Immune
5	2023/OKYVHYBRES-6	4	3	4	3.66	1.7 7	1.33	1.7 7	1.62	Resistan ce
6	2023/OKYVHYBRES-7	0	0	0	0.00	0	0	0	0.00	Immune
7	2023/OKYVHYBRES-8	0	0	0	0.00	0	0	0	0.00	Immune
8	2023/OKYVHYBRES-9	0	0	0	0.00	0	0	0	0.00	Immune

Table 8. ELCV Infection (%) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Sr. No.	Entries/Genotype	ELCV Infection (%)
1	2023/OKYVHYBRES-1	0.00
2	2023/OKYVHYBRES-2	0.00
3	2023/OKYVHYBRES-4	0.00
4	2023/OKYVHYBRES-5	0.00
5	2023/OKYVHYBRES-6	0.00
6	2023/OKYVHYBRES-7	0.00
7	2023/OKYVHYBRES-8	0.00
8	2023/OKYVHYBRES-9	0.00

Table 9. Marketable fruit yield (kg/plot) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Fruit yield (kg/plot)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	8.88	6.88	7.45	7.74
2	2023/OKYVHYBRES-2	10.52	8.78	7.99	9.10
3	2023/OKYVHYBRES-4	8.68	6.84	7.63	7.72
4	2023/OKYVHYBRES-5	7.85	8.98	10.36	9.06
5	2023/OKYVHYBRES-6	8.14	9.72	7.83	8.56
6	2023/OKYVHYBRES-7	7.82	8.82	7.59	8.08
7	2023/OKYVHYBRES-8	5.57	6.66	7.06	6.43
8	2023/OKYVHYBRES-9	10.55	9.22	10.99	10.25
S. Em ±		0.61			
CD at 5%		1.86			
CV%		12.72			

Table 10. Marketable fruit yield (q/ha) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Fruit yield (q/ha)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	109.63	84.94	91.98	95.51
2	2023/OKYVHYBRES-2	129.88	108.40	98.64	112.30
3	2023/OKYVHYBRES-4	107.16	84.44	94.20	95.27
4	2023/OKYVHYBRES-5	96.91	110.86	127.90	111.89
5	2023/OKYVHYBRES-6	100.49	120.00	96.67	105.72
6	2023/OKYVHYBRES-7	96.54	108.89	93.70	99.71
7	2023/OKYVHYBRES-8	68.77	82.22	87.16	79.38
8	2023/OKYVHYBRES-9	130.25	113.83	135.68	126.58
S. Em ±		7.59			
CD at 5%		23.00			
CV%		12.72			

Table 11. Average weight of single fruit (g) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Average Single fruit weight (g)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	11.30	10.36	10.95	10.87
2	2023/OKYVHYBRES-2	11.30	10.85	10.20	10.78
3	2023/OKYVHYBRES-4	11.90	11.05	12.36	11.77
4	2023/OKYVHYBRES-5	12.77	10.95	11.22	11.65
5	2023/OKYVHYBRES-6	11.60	11.78	10.55	11.31
6	2023/OKYVHYBRES-7	10.12	9.89	10.44	10.15
7	2023/OKYVHYBRES-8	9.59	11.50	10.89	10.66
8	2023/OKYVHYBRES-9	12.20	13.77	14.20	13.39
S. Em ±		0.46			
CD at 5%		1.40			
CV%		7.08			

Table 12. Fruit Length (cm) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Fruit Length (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	9.55	10.06	9.78	9.80
2	2023/OKYVHYBRES-2	9.50	10.23	10.66	10.13
3	2023/OKYVHYBRES-4	11.95	12.25	10.33	11.51
4	2023/OKYVHYBRES-5	10.66	11.78	10.66	11.03
5	2023/OKYVHYBRES-6	10.21	9.78	11.22	10.40
6	2023/OKYVHYBRES-7	10.70	9.88	9.45	10.01
7	2023/OKYVHYBRES-8	9.89	10.25	10.33	10.16
8	2023/OKYVHYBRES-9	12.44	12.95	11.36	12.25
S. Em ±		0.39			
CD at 5%		1.18			
CV%		6.33			

Table 13. Fruit Girth (cm) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Fruit Girth (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	4.55	4.80	5.44	4.93
2	2023/OKYVHYBRES-2	4.77	4.90	5.22	4.96
3	2023/OKYVHYBRES-4	5.66	5.33	6.22	5.74
4	2023/OKYVHYBRES-5	4.88	5.35	5.99	5.41
5	2023/OKYVHYBRES-6	4.95	5.39	5.02	5.12
6	2023/OKYVHYBRES-7	5.03	4.80	4.92	4.92
7	2023/OKYVHYBRES-8	5.02	4.78	4.88	4.89
8	2023/OKYVHYBRES-9	6.55	5.80	6.35	6.23
S. Em ±		0.18			
CD at 5%		0.55			
CV%		5.96			

Table 14. Plant height at harvest (cm) at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Plant height at harvest (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	118.90	135.40	114.60	122.97
2	2023/OKYVHYBRES-2	122.60	134.20	122.80	126.53
3	2023/OKYVHYBRES-4	123.60	134.20	117.20	125.00
4	2023/OKYVHYBRES-5	134.20	126.20	114.60	125.00
5	2023/OKYVHYBRES-6	119.20	130.60	125.40	125.07
6	2023/OKYVHYBRES-7	130.60	122.00	130.20	127.60
7	2023/OKYVHYBRES-8	120.20	122.60	132.20	125.00
8	2023/OKYVHYBRES-9	152.50	158.40	142.80	151.23
S. Em ±		4.16			
CD at 5%		12.60			
CV%		5.60			

Table 15. Number of fruits per plant at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Number of fruits per plant					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2023/OKYVHYBRES-1	12.80	11.20	12.20	12.07
2	2023/OKYVHYBRES-2	13.00	12.40	11.60	12.33
3	2023/OKYVHYBRES-4	14.60	13.60	16.40	14.87
4	2023/OKYVHYBRES-5	15.20	17.40	13.60	15.40
5	2023/OKYVHYBRES-6	14.20	12.60	14.20	13.67
6	2023/OKYVHYBRES-7	12.60	12.80	13.20	12.87
7	2023/OKYVHYBRES-8	12.00	12.40	11.40	11.93
8	2023/OKYVHYBRES-9	17.20	18.20	16.20	17.20
S. Em ±		0.65			
CD at 5%		1.96			
CV%		8.11			

Table 16. Ancillary Observations at Navsari centre Okra (YVMV) Hybrid Resistant AVT-I

Sr. No.	Entries/Genotype	Number of ridges/fruit	Fruit colour	Fruit texture
1	2023/OKYVHYBRES-1	5.00	Green	Smooth
2	2023/OKYVHYBRES-2	5.00	Green	Smooth
3	2023/OKYVHYBRES-4	5.00	Green	Smooth
4	2023/OKYVHYBRES-5	5.00	Green	Smooth
5	2023/OKYVHYBRES-6	5.00	Green	Smooth
6	2023/OKYVHYBRES-7	5.00	Green	Smooth
7	2023/OKYVHYBRES-8	5.00	Light Green	Smooth
8	2023/OKYVHYBRES-9	5.00	Green	Smooth

Conclusion:

In this trail total eight hybrids were tested. Marketable fruit yield difference was significant among hybrids evaluated and 126.58 q/ha marketable fruit yield was derived in 2023/OKYVHYBRES-9, with resistance against YVMV and ELCV, 2023/OKYVHYBRES-9 was the best hybrid.

